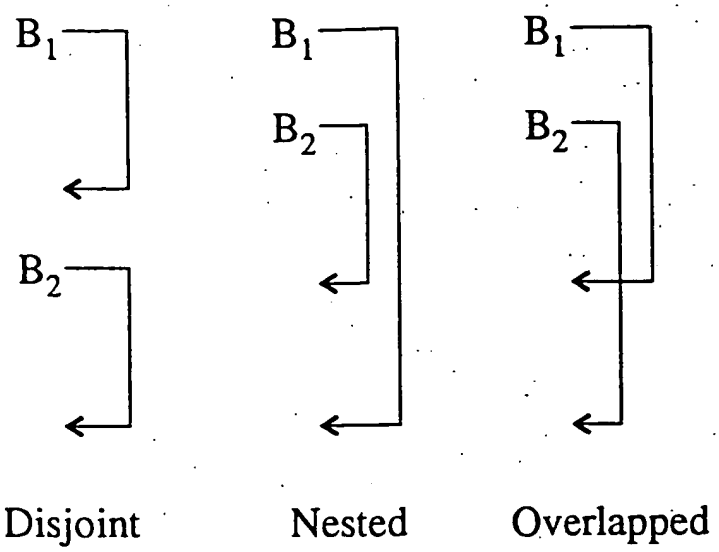
B1
B2
B1
B2
B1
B2
Disjoint
Nested
Overlapped

FIG. 1

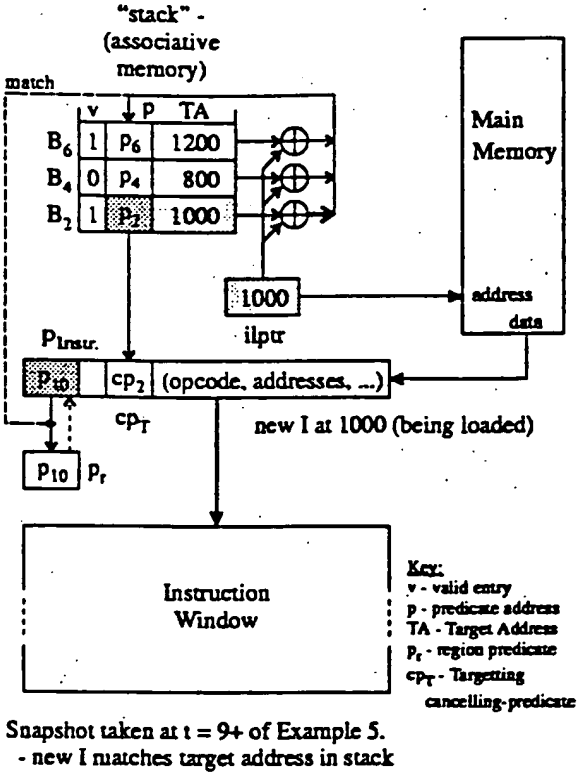
"stack" -
(associative
memory)
match
v
p
TA
B6
1
p6
1200
B4
0
p4
800
B2
1
p2
1000
Main
Memory
1000
ilptr
address
data
Pinstr.
p10
cp2
(opcode, addresses, ...)
cpT
new I at 1000 (being loaded)
p10
pr
Instruction
Window
Key:
v - valid entry
p - predicate address
TA - Target Address
pr - region predicate
cpT - Targetting
cancelling-predicate
Snapshot taken at t = 9+ of Example 5.
- new I matches target address in stack

FIG. 2

load time	address	code		predicate-assignment (at load time) stack B	v	p	TA	$p_{in}=p_r$	cp_{in}	predicate-use (at code execution time) p_{out}	cp_{out}	p_I - condition for I execution
1	100	I_1	z = x op y		empty			1	0	$p_1=1$	-	1
2	200	B_2	if (bc_2) goto 400	B_2	1	p_2	400	1	0	$p_2=\overline{bc}_2$	bc_2	1
3	300	I_3		B_2	1	p_2	400	p_2	0	-	-	$\overline{bc}_2$
4	400	I_4			empty			p_2	cp_2	$\overline{bc}_2+bc_2$	-	$\overline{bc}_2+bc_2=1$
5	500	I_5			empty			p_4	0	-	-	$p_4=1$
6	600	B_6	if (bc_6) goto 800	B_6	1	p_6	800	p_4	0	$\overline{bc}_6 \cdot p_4$	$bc_6 \cdot p_4$	1
7	700	I_7		B_6	1	p_6	800	p_6	0	-	-	$\overline{bc}_6$
8	800	I_8			empty			p_6	cp_6	$\overline{bc}_6+bc_6$	-	$\overline{bc}_6+bc_6=1$
9	900	I_9			empty			p_8	0	-	-	$p_6=1$

Equations - for "T": $p_I=p_{out}=p_{in}+cp_{in}$; for "B": $p_{out}=\overline{bc} \cdot p_{in}$, $cp_{out}=bc \cdot p_{in}$

FIG. 3

load time	address	code		predicate-assignment (at load time) stack B	v	p	TA	$p_{in}=p_r$	cp_{in}	predicate-use (at code execution time) p_{out}	cp_{out}	p_I - condition for I execution
1	100	I_1	z = x op y		empty			1	0	$p_1=1$	-	1
2	200	B_2	if (bc_2) goto 800	B_2	1	p_2	800	1	0	$p_2=\overline{bc}_2$	bc_2	1
3	300	I_3		B_2	1	p_2	800	p_2	0	-	-	$\overline{bc}_2$
4	400	B_4	if (bc_4) goto 600	B_4	1	p_4	600	p_2	0	$\overline{bc}_4 \cdot p_2$	$bc_4 \cdot p_2$	1
				B_2	1	p_2	800					
5	500	I_5		B_4	1	p_4	600	p_4	0	-	-	$\overline{bc}_2 \cdot \overline{bc}_4$
				B_2	1	p_2	800					
6	600	I_6		B_2	1	p_2	800	p_4	cp_4	p_4+cp_4	-	$\overline{bc}_4 \cdot \overline{bc}_2 + bc_4 \cdot \overline{bc}_2 = \overline{bc}_2$
7	700	I_7		B_2	1	p_2	800	p_6	0	-	-	$\overline{bc}_2$
8	800	I_8			empty			p_6	cp_2	p_6+cp_2	-	$\overline{bc}_2+bc_2=1$
9	900	I_9			empty			p_8	0	-	-	1

Equations - for "I": $p_I=p_{out}=p_{in}+cp_{in}$; for "B": $p_{out}=\overline{bc} \cdot p_{in}$, $cp_{out}=bc \cdot p_{in}$

FIG. 4

load time	address	code		predicate-assignment (at load time) stack		predicate-use (at code execution time)		
				B v p TA	$p_{in}=p_r$ cp_{in}	p_{out}	cp_{out}	p_1 - condition for I execution
1	100	I_1	z = x op y	empty	1 0	$p_1=1$	-	1
2	200	B_2	if (bc_2) goto 600	B_2 1 p_2 600	1 0	$p_2=\overline{bc}_2$	bc_2	1
3	300	I_3		B_2 1 p_2 600	p_2 0	-	-	$\overline{bc}_2$
4	400	B_4	if (bc_4) goto 800	B_4 1 p_4 800 B_2 1 p_2 600	p_2 0	$\overline{bc}_4 \cdot p_2$	$bc_4 \cdot p_2$	1
5	500	I_5		B_4 1 p_4 800 B_2 1 p_2 600	p_4 0	-	-	$\overline{bc}_4 \cdot \overline{bc}_2$
6	600	I_6		B_4 1 p_4 800 B_2 0 p_2 600	p_4 cp_2	p_4+cp_2	-	$(\overline{bc}_4 \cdot \overline{bc}_2)+bc_2=\overline{bc}_4+bc_2$
7	700	I_7		B_4 1 p_4 800 B_2 0 p_2 600	p_6 0	-	-	$\overline{bc}_4+bc_2$
8	800	I_8		empty	p_6 cp_4	p_6+cp_4	-	$\overline{bc}_4+bc_2+(bc_4 \cdot \overline{bc}_2)=1$
9	900	I_9		empty	p_8 0	-	-	1

Equations - for "T": $p_1=p_{out}=p_{in}+cp_{in}$; for "B": $p_{out}=\overline{bc} \cdot p_{in}$, $cp_{out}=bc \cdot p_{in}$

FIG. 5

load time	address	code		predicate-assignment (at load time) stack B	v	p	TA	$p_{in}=p_I$	cp_{in}	predicate-use (at code execution time) p_{out}	cp_{out}	p_I - condition for I execution
1	100	I_1	z = x op y	empty				1	0	$p_1=1$	-	1
2	200	B_2	if (bc_2) goto 1000	B_2	1	p_2	1000	1	0	$p_2=\overline{bc_2}$	bc_2	1
3	300	I_3		B_2	1	p_2	1000	p_2	0	-	-	$\overline{bc_2}$
4	400	B_4	if (bc_4) goto 800	B_4	1	p_4	800	p_2	0	$\overline{bc_4}\cdot p_2$	$bc_4\cdot p_2$	1
				B_2	1	p_2	1000					
5	500	I_5		B_4	1	p_4	800	p_4	0	-	-	$\overline{bc_4}\cdot\overline{bc_2}$
				B_2	1	p_2	1000					
6	600	B_6	if (bc_6) goto 1200	B_6	1	p_6	1200	p_4	0	$\overline{bc_6}\cdot p_4$	$bc_6\cdot p_4$	1
				B_4	1	p_4	800					
				B_2	1	p_2	1000					
7	700	I_7		B_6	1	p_6	1200	p_6	0	-	-	$\overline{bc_6}\cdot\overline{bc_4}\cdot\overline{bc_2}$
				B_4	1	p_4	800					
				B_2	1	p_2	1000					
8	800	I_8		B_6	1	p_6	1200	p_6	cp_4	p_6+cp_4	-	$(\overline{bc_6}\cdot\overline{bc_4}\cdot\overline{bc_2})+(bc_4\cdot\overline{bc_2})$ $=(\overline{bc_6}+bc_4)\overline{bc_2}$
				B_4	0	p_4	800					
				B_2	1	p_2	1000					
9	900	I_9		B_6	1	p_6	1200	p_8	0	-	-	$(\overline{bc_6}+bc_4)\overline{bc_2}$
				B_4	0	p_4	800					
				B_2	1	p_2	1000					
10	1000	I_{10}		B_6	1	p_6	1200	p_8	cp_2	p_8+cp_2	-	$((\overline{bc_6}+bc_4)\overline{bc_2})+bc_2$ $=\overline{bc_6}+bc_4+bc_2$
11	1100	I_{11}		B_6	1	p_6	1200	p_{10}	0	-	-	$\overline{bc_6}+bc_4+bc_2$
12	1200	I_{12}		empty				p_{10}	cp_6	$p_{10}+cp_6$	-	$\overline{bc_6}+bc_4+bc_2+(bc_6\cdot\overline{bc_4}\cdot\overline{bc_2})$ $=1$
13	1300	I_{13}		empty				p_{12}	0	-	-	1

Equations - for "I": $p_I=p_{out}=p_{in}+cp_{in}$; for "B": $p_{out}=\overline{bc}\cdot p_{in}$, $cp_{out}=bc\cdot p_{in}$

FIG. 6